Roy Luo

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Education

University of Waterloo Sep 2023 – Dec 2026
Financial Analysis and Risk Management & Statistics, Co-op *Waterloo, Ontario*

McMaster University Sep 2022 – Apr 2023
Mathematics and Statistics *Hamilton, Ontario*

Experience

Quantitative Analyst Intern May 2025 – Aug 2025
University Pension Plan Ontario (UPP) *Toronto, ON*

- Built and enhanced macroeconomic factor-based asset allocation models to achieve target asset mix under downside risk, volatility, liability and liquidity constraints.
- Conducted pre and post-investment analysis for $400M in private and public market investments, assessing alignment with target sectoral/geographical exposures and impact on portfolio risk-return profile.
- Delivered geopolitical and FX sensitivity analysis (rate shocks, currency volatility) that directly informed fund-level investment decisions for a multi-asset portfolio.

Quantitative Risk Intern Sep 2024 – Apr 2025
Alberta Investment Management Corporation (AIMCo) *Toronto, ON*

- Developed and improved total-fund credit risk models across a $170B multi-asset portfolio (26 clients), enhancing visibility into fixed income, private credit, and private equity exposures.
- Built reporting pipelines to track counterparty, VaR, and FX exposures for $20B+ derivatives/structured products, reducing manual monitoring errors.
- Migrated internal credit scoring frameworks into BlackRock Aladdin, automating the flagging of $100M+ in high-risk exposures and ensuring compliance with enterprise-wide methodology.

Quantitative Risk Intern Jan 2024 – Apr 2024
Healthcare of Ontario Pension Plan (HOOPP) *Toronto, ON*

- Engineered a stress testing tool that quantified rate-risk impacts on billions in liabilities/assets, improving risk transparency for the fixed-income desk.
- Automated dynamic hedging calculations in Python, cutting manual workload by 10+ hours per week and delivering 100% reporting accuracy.
- Built a real-time liquidity reporting framework that reduced turnaround by 33%, accelerating decision-making while ensuring compliance with regulatory standards.

Projects

Live Bitcoin Orderbook Dashboard | *R, SQL Server, PowerBI*

- Built a cryptocurrency orderbook dashboard processing 25K+ Bitcoin orders/minute via live websocket feed.
- Optimized pipeline by loading SQL data into PowerBI DirectQuery, reducing dashboard refresh latency by 50% compared to traditional batch loads.
- Delivered a 1-second refresh rate dashboard tracking mid-market rate, order imbalance, and spread dynamics for high-frequency market analysis.

Technical Skills

Programming Languages: Python, R, SQL, C, VBA
Tools: PowerBI, Excel, Word, Powerpoint, Git, Aladdin, Bloomberg
Languages: English, Mandarin, French